Abstracts

A 230 GHz low noise subharmonically pumped SIS mixer

K.C. Xiao, H. Ogawa, A. Mizuno and Y. Fukui. "A 230 GHz low noise subharmonically pumped SIS mixer." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 573-576.

A 230 GHz Low Noise Subharmonically Pumped (SHP) SIS mixer has been developed and tested at 115 GHz LO. The mixer has a two backshorts waveguide structure and employs an array of four 1.7 /spl mu/m/sup 2/ Nb/AlO/sub x//Nb SIS junctions in series with /spl omega/RnC/spl sim/3 at 230 GHz. Harmonic quantum mixing occurred over the whole experimental frequency range of 208-234 GHz (LO:114-117 GHz), with the corresponding DSB noise temperatures of lower than 150 K and a lowest value of 75 K at /spl sim/230 GHz. The present noise results are believed to be the lowest yet reported for a SHP mixer.

❑ Return to main document.